

What is Claimed is:

1. Apparatus for transferring a logic signal from a first unit to a second unit, the apparatus comprising:
  - a first conductor for transferring the logic signal;
  - 5 a complementary unit for forming the complement of the logic signal;
  - a second conductor coupled to the complementary unit for transferring the logic signal complement; and
  - a verification unit coupled to the first and second
  - 10 conductor, the verification unit using the signals transferred by the first and second conductor to reconstitute the logic signal.
2. The apparatus as recited in claim 1 wherein the
- 15 verification unit issues a preselected signal when the verification unit can not reconstruct the logic signal.
3. The apparatus as recited in claim 1 wherein the verification unit includes a logic AND gate, the first
- 20 conductor coupled to a first terminal of the logic AND gate, the second conductor being coupled to an inverting terminal of the logic AND gate, the output terminal of the logic AND gate providing the logic signal in the absence of error.

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4. The apparatus as recited in claim 3 wherein the output of the logic AND gate has a predetermined value when an error is detected.

5        5. The apparatus as recited in claim 1 wherein the verification unit includes a logic EXCLUSIVE NOR gate, the first conductor being coupled to a first input terminal of the logic EXCLUSIVE NOR gate, the second conductor being coupled to a second input terminal of the  
10 logic EXCLUSIVE NOR gate, the output terminal of the logic EXCLUSIVE NOR gate providing the preselected signal when an error in the transmission of the logic signal is identified.

15        6. The apparatus as recited in claim 1 wherein the first and second conductors are part of a bus.

7. A method for transferring a logic signal over a bus, the method comprising;  
20        transferring both the logic signal and a complement of the logic signal over the bus; and  
         combining the transferred logic signal and the transferred complement of the logic signal to provide the logic signal, the logic signal being provided in the  
25 absence of error in the transfer of the logic signal and complement of the logic signal.

8. The method as recited in claim 7 further comprising generating a preselected signal when the logic signal and the transferred complement of the logic signal can not be combined to form the logic signal.

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9. The method as recited in claim 7 wherein transferring step includes transferring the transferred logic signal and the transferred complement of the logic signal over separate conductors.

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10. The automotive system for exchanging logic signals in an automotive unit, the system comprising:

a central processing unit;

at least one peripheral unit; and

15 a bus coupling the central processing unit and the peripheral unit, the bus including a first and a second conductor;

wherein a signal transmitting unit includes an a logic signal inverting device coupled to the second  
20 conductor, the transmitting unit applying a logic signal to the first conductor and to an input terminal of the logic signal inverting device;

wherein a signal receiving unit includes combining unit, the combining unit combining the signals on the  
25 first and second conductor to provide the logic signal when an error has not occurred to the signals transmitted by the first and second conductors.

11. The system as recited in claim 10 wherein the unit for combining includes a component for generating a preselected signal when an error has occurred in the transmission of a signal on one of the first or second conductors.

12. The system as recited in claim 10 wherein the combining unit includes a logic AND gate, the first conductor being coupled to a first input terminal of logic AND gate, the second conductor being coupled to a second and inverting input terminal of the logic AND gate.

13. The system as recited in claim 11 wherein the component is a logic EXCLUSIVE NOR gate, the first conductor being coupled to a first input terminal of the logic EXCLUSIVE NOR gate, the second conductor being coupled to a second input terminal of the logic EXCLUSIVE NOR gate.